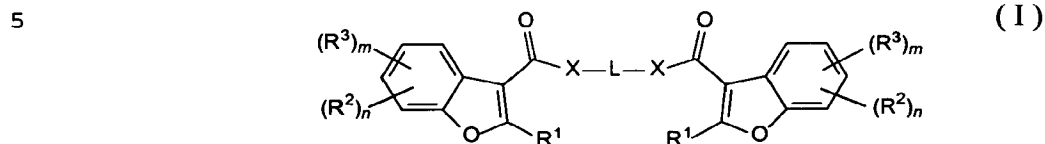


## CLAIMS

What is claimed is:

1. A compound of the formula I

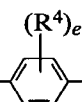


wherein

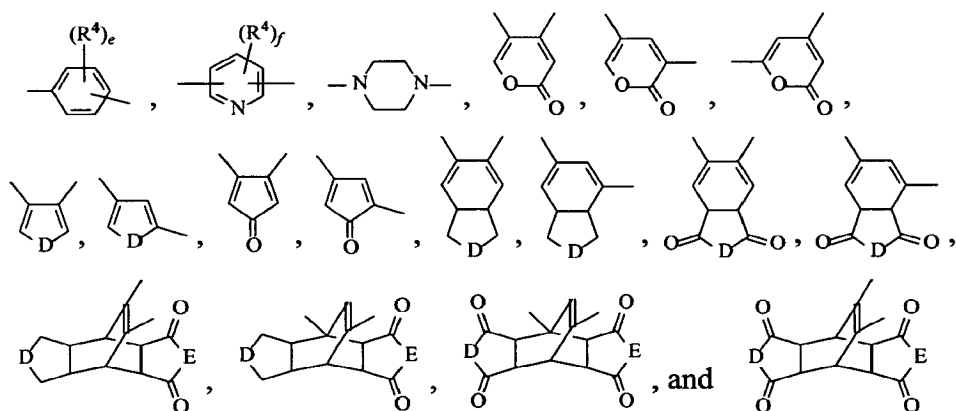
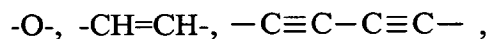
L is selected from  $-(CH_2)_a-$ , and a group of the formula



wherein  $a$  is selected from 2-20,

10 B is  $-(CH_2)_b-$ ,  $-(CH_2)_c-O-(CH_2)_d-$ , or  $-(CH_2)_c-$    $-(CH_2)_d-$ , and

A is selected from a group of the formula



wherein  $R^4$  is selected from halogen, lower alkyl, lower alkoxy,  $NO_2$ , and  $-NRR$ ,

D and E are independently selected from O, S, Se, CRR and NR,

$b$  is selected from 1-10,

20  $c$  is selected from 1-8,

$d$  is selected from 1-8,

$e$  is selected from 0-4;

$f$  is selected from 0-3, and

R is selected from H, lower alkyl, aralkyl and aryl;

X is selected from O, or -NH-;

R<sup>1</sup> is selected from

a C<sub>1</sub>-C<sub>20</sub> alkyl which may be unsubstituted or substituted with one or more substituents selected from CN, halogen, lower alkoxy, thio-lower alkyl, nitro, phosphinos, phosphates, and protected amino;

a C<sub>1</sub>-C<sub>20</sub> alkenyl which may be unsubstituted or substituted with one or more substituents selected from CN, halogen, lower alkoxy, thio-lower alkyl, nitro, phosphinos, phosphates, and protected amino;

an aromatic group which may be unsubstituted or substituted with one or more substituents

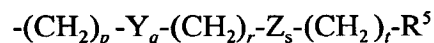
selected from halogen, lower alkyl, lower alkoxy, thio-lower alkyl, nitro, phosphinos, phosphates, and protected amino; and

an aralkyl which may be unsubstituted or substituted with one or more substituents selected

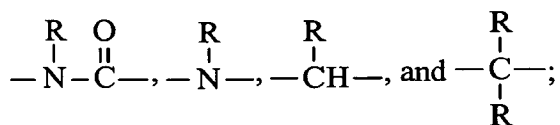
from halogen, lower alkyl, lower alkoxy, thio-lower alkyl, nitro, phosphinos, phosphates, and protected amino;

R<sup>2</sup> is selected from halogen, hydroxy, CN, nitro, lower alkyl, lower alkoxy, thio-lower alkyl, lower alkenyl, cycloalkyl, C<sub>2</sub>-C<sub>8</sub> acyl, lower alkyl ester, and lower alkyl amide;

R<sup>3</sup> is a group of the formula



wherein Y and Z are independently selected from O, S, -OCH<sub>2</sub>CH<sub>2</sub>O-,  $-\overset{\text{O}}{\overset{\parallel}{\text{C}}}-$ ,  $-\overset{\text{O}}{\overset{\parallel}{\text{C}}}-\text{O}-$ ,



*p*, *r* and *t* are independently selected from values from 0 to 10;

*q* and *s* are independently selected from 0 and 1, provided that when *t*=0 then *s*=0, and when *r*=0 then *q*=0; and

R<sup>5</sup> is selected from OH, CO<sub>2</sub>H,  $-\text{NH}\overset{\text{O}}{\overset{\parallel}{\text{C}}}\text{OH}$ , and  $-\text{NH}\overset{\text{O}}{\overset{\parallel}{\text{C}}}-\text{CH}_2\text{OH}$ ;

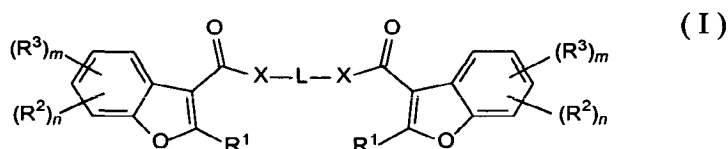
$n$  is selected from 0-4, and

$m$  is 0 or 1, with the proviso that the sum of  $n$  plus  $m$  does not exceed 4.

- 5 2. A compound of the claim 1, wherein A is selected from a group of the formula  
-O-, -CH=CH-, and -C≡C-C≡C-.

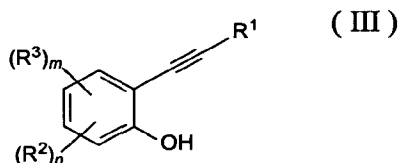
3. A process for the preparation of a compound of the formula I

10

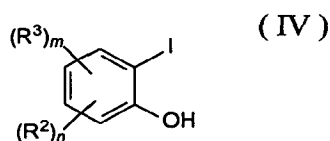


comprising the steps of

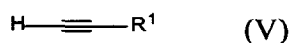
- (a) a Sonogashira reaction to prepare a compound of the formula III



- 15 by reacting a compound of the formula IV

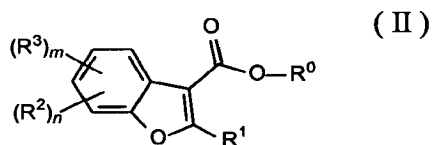


with a terminal alkyne represented by the formula V:



- 20 in the presence of base and a transition metal catalyst;

- (b) carbonylative annulation to give a compound of the formula II



by treating a compound of the formula III with an alcohol of the formula  $R^0$ -OH in the presence of a transition metal catalyst, carbon monoxide and a base, wherein  $R^0$  is lower alkyl, aralkyl, or aryl, wherein the lower alkyl, aralkyl, or aryl, may be optionally substituted with one or more halogen, CN and nitro, or  $R^0$  is selected from a group of the

5 formula

-L-OH, and -B-A',

wherein L and B are as described above for a compound of the formula I, and A' is  $-\text{CH}=\text{CH}_2$  or  $-\text{C}\equiv\text{CH}$  ; and

10 (c) coupling two molecules of the formula II to give a compound of the formula I,

wherein  $R^1$ ,  $R^2$ ,  $R^3$ , X, L,  $n$  and  $m$  are as described in claim 1 for the compound of the formula I.